WEEDS and TURF

SEPTEMBER 1963

Monthly news for contract sprayers of weeds, turf, ornamentals, and trees

Turf Reseeding: Doorway to Increased Profits

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USE ORIENTED
"Scientific Guide to Pest Control Operations" (published by Pest Control magazine) was written by and for pest controllers. Author Dr. Lee C. Truman is a successful PCO in Indianapolis, Ind., and Professor William L. Butts is in charge of the four-year pest control curriculum of Purdue's entomology department. Working with them was an editorial committee representing important phases of the pest control industry: Dr. John V. Osmun, head of Purdue's entomology department; Dr. Howard O. Deay, Purdue professor of entomology; Dr. Philip J. Spear, technical director of the National Pest Control Association; Dr. Harry D. Pratt, in charge of insect and rodent control training for the Communicable Disease Center of the U.S. Public Health Service; George L. Hockenyos, PCO-researcher, owner of Sentinel Laboratories, Springfield, Ill.; and James A. Nelson, editor and publisher of Pest Control magazine.

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—W & T Mailbox—

Interested in Railway Weed Control

I am very much interested in railway weed control, as discussed in the June 1963 issue of *Weeds and Turf*. I would appreciate any information you could forward to me on who should be contacted at the railroad companies.

Gordon R. Kennedy

Kennedy's Exterminating & Pest Control Co.
Wood River, Ill.

Although responsibility for weed control along rights-of-way and within railroad yards frequently varies from one company to another, CAs who have written us indicate that the chief engineer, maintenance-of-way, is usually the person to see. In other cases, the purchasing department will probably be able to direct any inquires to the proper official. Ed.

W&T Is Valuable Guide

I am very much impressed with your publication *Weeds and Turf*. In addition to providing up-to-date developments, the information appears to be presented in an interesting, well-organized, and unbiased manner. All the issues which I have had the opportunity to read proved to be of value to me in the turf field.

Henry W. Indyk

Extension Service
College of Agriculture
New Brunswick, N.J.

W&T Fulfills Definite Need

You are to be congratulated for introducing the very worthwhile magazine, *Weeds and Turf*. This magazine will fulfill a definite need for all segments of the population who enjoy the beauty and usefulness of turf. In addition, it will be of value to those of us who devote full time to turf and weeds. The writing and reporting are informative and of the highest quality.

Evert O. Burt

Assistant Turf Technologist
Agricultural Experiment Stations
University of Florida
Fort Lauderdale, Fla.

Grateful for Extensive Coverage

We derive constant satisfaction from your magazine, and use it over and over in our everday business.

The Miami area is becoming more weed-conscious, and several articles on weed control have appeared in recent newspapers here. We feel qualified this year to go into this phase of the business in both residential lawns and in commercial properties, and we are starting our annual contracts in both areas.

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Charlie P. Johnson

Charlie P. Johnson Spray Co., Inc.
Miami, Fla.

Weeds and Turf welcomes expressions of opinions from its readers. Send ideas and comments briefly as possible to Charles D. Webb, Editor, Weeds and Turf, 1900 Euclid Ave. Cleveland 15, Ohio.

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WEEDS and TURF
PEST CONTROL
A SECTION OF PEST CONTROL MAGAZINE

September, 1963

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Don't buy business!

A frequent complaint voiced by many CAs is that competitors are "ruthless price-cutters."

It is certainly a sad reality that a few weed, turf, and tree jobs are taken at absurdly low prices. Sometimes these low bids actually result from deliberate price slashing; sometimes the contractor has simply not used a pricing basis which covers all costs and profits.

Whatever the reason for price cutting, the end effect on the industry is unsettling. Prices are soft, profits inconstant, quality of work inconsistent.

"The only thing worse than a man who cuts prices is the man who meets them," one reader wrote us recently. This is a telling comment, and perhaps spells out the real ethical question. Since price-cutters exist in any business and crop up from time to time regardless of what is done to stop them, whether or not to meet reduced prices is a decision reputable companies are often forced to make.

Fortunately, the low-price firms either (a) cannot perform quality work and therefore get no more jobs, or (b) are eventually forced out of business because they end up broke.

But this does not solve the dilemma of a well-established, sound contract application firm which is occasionally forced to bid against such outfits. Otherwise astute managers, faced with this kind of competition, sometimes have to agree to "buy business" by price cutting because they feel a job is too important to lose.

Ideally, perhaps, the CA should just let the business go; but there are factors which sometimes make this infeasible.

We suggest that applicators everywhere work through their various trade associations, through chambers of commerce, and through a public education program (utilizing advertising) to remind customers that, in vegetation management especially, it's *quality* that is really important.

Contents of this Issue © Trade Magazines, Inc., 1963

Section of old "haygrass" turf knocked down with cacodylic acid spray prior to reseeding. The dead grass, loosened in seedbed preparation, can remain as an effective mulch. A modern technique for upgrading turf with quality grasses such as Kentucky bluegrass, fine fescues, or even Highland bentgrass.

Business Opportunities in Turf Reseeding

By **DR ROBERT W. SCHERY**
Director, The Lawn Institute
Marysville, Ohio

TECHNOLOGICAL advance is a mark of our times. Only skillful use of specialized equipment leads to maximum service (and profit). Do pest control specialists seize all such opportunities? Perhaps some might extend their technical competence to embrace seeding, a creative facet that rounds out the professional program of turf maintenance and gives it a positive luster. Seeding could enhance year-around utilization of equipment and know-how.

Turf pest control specialists are no doubt alert to latest developments in preventive spraying. But they may not have considered how closely spraying is related to other evolving procedures with which it might be integrated.

Seeding of quality grass, for example, is a creative, positive act; it may blunt and even overshadow the distasteful negativism that "protection" implies. Might not a customer respond better to suggestions for making his a first-rate Kentucky bluegrass-fine fescue lawn than he does to warnings for defensive action against pests? If a lawn service organization can offer relatively effortless means for upgrading lawn quality, isn't this also an automatic entree for keeping lawns fertilized, weed-free, and bugless?

Newer developments bring us almost to the point where a hay field can be turned into a bluegrass lawn with minimum effort. And in the South, dull turfs can be winterseeded to produce an emerald cover of attractive texture. Indeed, Kentucky bluegrass, Oregon fine fescues, and Highland bentgrass are already substituting for ryegrass on the better golf putting greens in the South; were this to become usual for the millions of acres of bermuda lawns that turn dingy each autumn, imagine the market! Yet, techniques for accomplishing this easily and economically may not be remote; and a rising level of personal income in the South may make winterseeding more acceptable.

The modern homeowner — even the groundskeeper — cannot afford to capitalize specialized machines for just occasional usage. Nor does he have the know-how to do the right thing at the right time. A lawn service, well equipped to give good grass a chance in outdistancing weeds, should find acceptance in a market as yet unexploited. The chemicals and the equipment are on hand to make this possible. New seeding fits nicely into the tapering-off season too, for autumn is the best time to seed bluegrass-fescue and Highland bentgrass lawns in the North, as well as winterseed southern turfs.

This added business must be cultivated, of course. But with good lawns increasingly a status symbol, with homeowners having more leisure time in which to be concerned about lawns, and with national tastes in turf becoming more sophisticated all the time, the trend of the times lends support. Family formations, dispos-

Better LAWN & TURF INSTITUTE

Well known among turf people, Dr. Schery (pictured above) is director of the Lawn Institute, a nonprofit agency devoted to advancement of fine turf. The author feels contract turf companies can find new profits in lawn re-seeding.

able income, and leisure time all seem sure to rise; relaxed suburban living amidst ample good turf is not likely to suffer inadequate demand.

Quick Knockdown

The usefulness of specialized chemicals is nowhere better demonstrated than for freeing a poor lawn of unwanted vegetation prior to reseeding with quality grass. Conventional soil sterilization is not an everyday answer; this process usually requires either soil cultivation or a considerable waiting period before reseeding. Methyl bromide, one of the most effective sterilants, must be contained under gas-tight tarpaulin. Vapam is drenched into cultivated soil, and may injure ornamental plantings (through the roots). Such methods tend to be too intricate for use on some landscaped grounds.

A surface knockdown of old vegetation is practical, however. Lawn Institute tests convince us that general weed killers such as dalapon, amitrol, Vapam, and Novege — or heavy dosage of calcium cyanamide — knock out unwanted annuals and most perennials. Where broadleaf weeds are a problem, 2,4-D or Silvex might be combined with such sprays as dalapon. Used at manufacturers' suggested rates, the chemicals dissipate within a few weeks (depending upon climate and soil), after which reseeding can be undertaken.

Even more convenient is cacodylic acid, a newer, quick-knockdown chemical. One half pound (of the 66% liquid) in a few gallons of water to the thousand square feet scorches back all surface vegetation within just a few days, even when temperatures are crisp with light freezing at night. The chemical seems to be immediately inactivated upon reaching soil, and presents no hazard to shrubs and trees. Dilution can be adjusted for the type of vegetation being sprayed, so that the foliage is well doused (perhaps with a wetting agent or spreader-sticker added), but little solution is lost by soaking through to the soil. For better control of weed grasses that have deep rhizomes, such as quackgrass, dalapon may be added to the cacodylic acid; but then delay before reseeding must match dissipation time of the dalapon.

There is some advantage to surface knockdown even when the seedbed is plowed or rotary tilled. A cultivated seedbed free of living sprouts is still the surest way to procure a uniform new stand of grass on schedule. But labor costs often make cultivation prohibitive. A newer substitute is to use a thinning or "vertical mowing" device after chemical knockdown. These can be set low to fragment the old vegetation and scratch the soil surface. Used in a favorable season, such as autumn or early spring for bluegrass-fescue or Highland bentgrass, an adequate seedbed is obtained for lodgement of the relatively small seed of these quality turfgrasses. The old stubble, and any loose "straw" kicked aside in the operation, can be left as a mulch. If facilities permit, top-dressing or additional mulching encourages establishment of the new grass. Frequent watering until the stand is well rooted is even more important than when the seedbed has been cultivated.

This simplified seeding method is not a foolproof substitute for conventional planting to a well-fertilized seedbed. The chances of failure are greater, especially when watering is neglected or where no top-dressing or mulch is used to hold moisture. Nor can fertilizer be mixed deeply into the root zone. But it is an inexpensive means of reseeding or patching that could extend pest control operations with little more than the purchase of a vertical mowing or de-thatching machine.

Mulching is good insurance to bring on sprout of a new seeding. Researchers at The Lawn Institute discovered that covering lawn seeding with a polyethylene tarp improved growth.

Indeed, a sufficiently powered thatch-remover might pay its way even without the chemical treatment. Annual de-thatching, followed by bolster seeding with quality grasses, should in time upgrade poor sods in almost any climate. The thinning sets back permanent grasses only slightly, but may mutilate and temporarily halt bulky weeds. In any event, thatch removal opens the sod sufficiently so that new seed reaches soil, rather than being wasted atop debris where it can't strike root.

Winterseeding

Just as autumn is excellent for planting cool-weather favorites (Kentucky bluegrass, fine fescues, and bentgrass) in the North, so is it the season for seeding these species into southern turfs as winter annuals. In the upper

A "vertical mower" can be used to scratch a receptive seedbed where old grass has received chemical knockdown spray. Note the loose, receptive surface where the machine has passed, excellent for good seed to strike root.

Newer techniques are in the offing for winterseeding southern turfs, such as bermudagrass. Here Dr. Evert Burt, Plantation Experiment Station in Florida, checks the new seedlings from a bluegrass-fine fescue-bentgrass mixture overseeded in November. The striations are where a vertical mower had opened the now-dormant bermuda.

South, from coastal Virginia through the Piedmont, west to Memphis and Dallas, common bermudagrass is the usual lawn cover. Because it is dormant from November until perhaps April, plusher neighborhoods often seed "wintergrass" annually in October. Even in the Deep South, where the dormant season is relatively short, there is demand for attractive winterseeding, especially along the tourist routes, and for commercial or recreational properties (such as motels and golf courses). With the South industrializing and achieving increased personal income, and with northern retirees so often heading south, it is reasonable to anticipate demand for more attractive outdoors with quality lawns on which to enjoy winter "outdoor living."

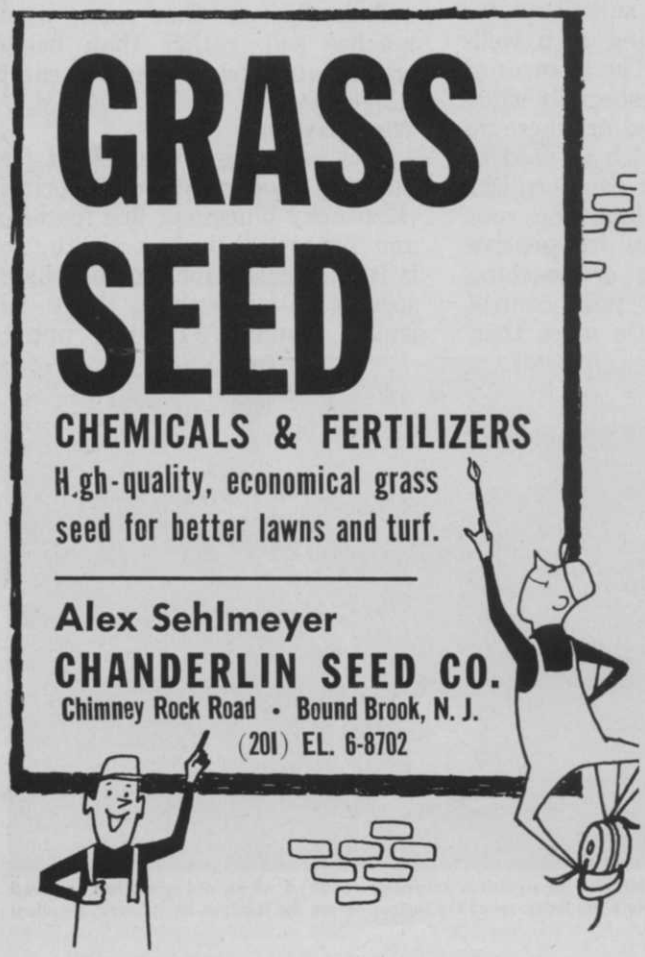
Traditionally, ryegrass, a large-seeded bunchgrass, has been scattered into bermuda to make winter cover of sorts. Ryegrass is quick and easy, but has a number of faults. It has certainly fallen into disfavor with experts such as golf course superintendents, who must maintain greens of high quality for winter vacationers. Ryegrass is relatively coarse, not a very deep green, subject to a number of diseases, and requires generous seeding rates (because the big seeds represent so few plants per pound). But worst of all, it is aggressive, and generally refuses to fade away gracefully in spring allowing bermuda to revive. Moreover, in the recent unusually cold winters, ryegrass has winterkilled as far south as southeastern Texas and middle Mississippi, while comparison plantings of bluegrass remained undamaged.

One might guess that the future holds promise for finer textured northern grasses of quality, such as Kentucky bluegrass, the fine fescues (Creeping Red, Chewings, Illahee, Pennlawn, etc.), and the lawn-type bentgrasses, now that techniques and equipment are evolving that make their establishment readily possible. Some research on this is discussed in the following sections.

Golf Course Winterseeding

Custom applicators probably have little direct contact with the golf course market, since golf courses typically employ their own expert superintendents. Nevertheless, golf courses represent a concentration of fine turf interest, where new developments receive trial under fire. Also the glamour of success "rubs off" well on influential citizens. A summarization of winterseeding results on putting green turf may thus be instructive.

The Lawn Institute investigated



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winterseeding in the deep South during 1962-63. A great deal of ferment is evident, but little in the way of general conclusions. Over much of the South ryegrass has fallen into disfavor for the reasons earlier given, and because many golfers feel it is not the ideal putting surface. Where ryegrass has winterkilled the last two years, the question is not so much whether to plant ryegrass, as what to substitute for it. Many cool-weather species are candidates, especially the quality ones previously mentioned (fine fescues, Kentucky bluegrass, and the bentgrasses), and *Poa trivialis* (rough bluegrass). There have been successes with each. All appear to give better spring transition than does ryegrass. But a serious difficulty is slowness to become established in autumn (compared to ryegrass). In this respect, the fine fescues are not too much at a disadvantage, but bluegrasses and bentgrasses generally don't make much of a cover until the winter tourist season has begun.

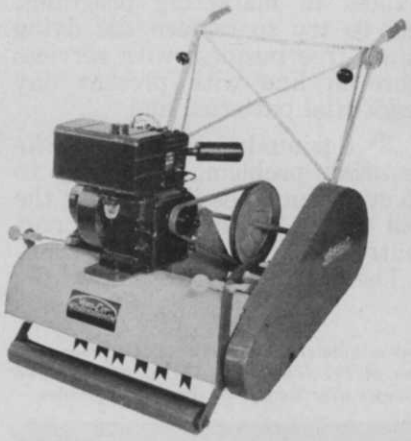
Research is being undertaken to develop reliable techniques for establishing fine turfgrasses in a putting green (while mowed ¼-⅜ inch). Vertical mowing and dethatching play a part. But of even greater pertinency to pest control interests may be spraying with growth retardants to induce earlier autumn dormancy in the permanent grass (keep bermuda from competing strongly with establishment of the wintergrass). Spraying of MH-30 (maleic hydrazide) or some of the other retardants prior to overseeding has given excellent results at the University of Arizona (50 cc.'s of 60% maleic hydrazide in ½ gallon water per hundred square feet), but erratic behavior at the University of Mississippi. The University of Florida has tried several retardants which might find a place in that relatively humid climate.

At Mississippi State University, mid-October seedings with fine fescue established as well as did ryegrass. By November 9 fine fescue ratings were the highest. It seemed to make little difference whether top-dressing was practiced before, after, or both before and after seeding. The turfgrass research report for 1962 mentions: "Ratings for turf quality (color, density, putting quality) found Pennlawn fescue rated highest." It noted, too, that the university golf team considered this the best putting surface. Both the coach and the team rated *Poa trivialis* as a poor grass for putting quality. The report adds: "Ryegrass and *Poa trivialis* did retard bermudagrass in the spring. Pennlawn fescue did not." Other conclusions: "Tests on overseeding of golf greens have found that there are other cool-season grasses which are as desirable or more desirable than ryegrass." And: "The bentgrasses, fineleafed fescues, and some of the *Poa* species do have a place in Mississippi in their use for overseeding of golf putting greens; — bentgrasses, fescues and bluegrasses produced best results when seeded 20-30 days prior to the first killing frost."

Researchers at Texas State University felt winterseeding there is best made about November 1. Quality northern grasses are much

(*Continued on page W-16*)

The Way To Better Turf



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Seek Replacements for Dying Markets, Treemen Urge At 39th International Shade Tree Conference in Toronto

A refusal to mourn the death of old markets, and a concurrent jubilation at the birth-cry of new ones, characterize the business outlook of modern America's arborist industry.

In fact, a changing concept of sales and service is just one example of the courageous attitude of tree expert companies today. Industrymen at the 39th International Shade Tree Conference convention made it quite plain that the coming months will be marked by increased efforts of arborists everywhere to lay low some of the phantoms which now plague the industry.

Meeting at the Royal York Hotel in Toronto, Ontario, August 4-9, the 600-odd delegates swept through an educational program that was breathtaking in its scope. In a series of fast-paced addresses and panels the assembly:

(1) Vowed to make new strides in the efforts to achieve a "professional" status and reputation;

(2) Decided to cast no backward glances in marketing programs, and to try to replace the dying estate tree business with services more in line with present day residential patterns; and

(3) Seriously considered the pesticide problem, promising to do everything possible to take the real truth about chemical pest control to the customer himself.

These ideas were part of the varied fabric of the 39th conference program, woven by a group of experts from every conceivable field of interest.

Delegates found time to quiz visiting A. J. Mackensie Clay of Rugby, England, who told of his experiences in large tree moving in the United Kingdom.

Last-minute check was typical of the thoroughness of Dr. George C. Decker, who refuted hysterics over the use of chemical pesticides.

"Old-timers" vied with new blood in presenting the concept of the professional arborist; college-trained marketing authorities explained where arborists' new accounts will come from; crack scientists delivered the latest data from lab and test plot; and a world-renowned entomologist methodically and relentlessly dispelled any real fears over the *proper* use of chemical pesticides.

In face of this formidable series of lectures and talks, and in addition to committee meetings and business sessions, the jovial group still found time for an extensive social program that made the most of Toronto's cosmopolitan entertainment facilities.

Perhaps one of the most practical addresses was presented in the National Arborists Association section of the program, where Robert Felix of Harder Tree Service, Inc., Hempstead, Long Island, N.Y., outlined what he feels to be the challenging business opportunities for aggressive arborists.

Felix, a young man who has many years in the business, was well qualified to speak.

"There are three salient trends in today's arborist markets which must be considered," Felix said. They are:

- tendency for industry to locate in suburbia;
- advent of the "estatelette," a home with large grounds, though smaller than the estate of yesterday; and
- increase in number of "development" homes, residences in the $12,000-18,000 category.

Industry and institutions built in suburbia today are rather widely landscaped, Felix pointed out. These grounds must be cared for, but building maintenance personnel are unqualified to do the job.

It's obvious that every arborist should consider this a prime source of new business. Problem is to convince management of the need for professional, contract tree care around these buildings; it is necessary to sell actual management people because their building maintenance personnel will be unwilling to admit their inability to perform these outdoor tasks.

Felix said this kind of business (i.e., suburban industry and institutions) makes a hard nucleus on which to build, partly because they all pay their bills promptly.

Services offered to these installations should include spraying, feeding, and pruning, a broad-scope program which rounds out vegetation management requirements for the suburban company and its grounds.

Estate of Yore Is Gone

Arborists have to admit, Felix said in introducing the second potential market, that the many-acred estate of yesteryear is gone with the touring car, gold bath tub, and low income tax.

Once the arborist's bread-and-

butter business, these estates are slowly but surely disappearing from the American scene.

But they're being replaced, Felix prompted, with the "estatelette," a $50,000-range house which, while smaller than the estate of the past, has more grounds than the ordinary middle-class residence.

These affluent ex-urbans consider a tree service as one of a growing number of indispensable status symbols. Since landscaping is generally part and parcel of the property, opportunities for increased service and profits abound among these posh estatelettes throughout the land.

Unless these three markets, especially the last, are cultivated, Felix observed, there will be no market at all for private tree work in the future. But there is no doubt that the markets will be developed, and that these new concepts will spur commercial arboriculture to new heights of professional service and sound profits.

Felix's companion on the National Arborist Association program was Henry F. Davis III, president of Lowden Tree Specialists, Inc., of Needham, Mass.

Davis outlined the ramifications of shade tree spraying, especially campaigns to curb Dutch elm disease.

A deep sense of public responsibility has inspired Lowden personnel to keep close tabs on the nature of tree spraying and the public hazards which may be involved. The company has been spraying trees for control of insects and diseases since 1946, and a successful history has enabled the firm to offer guarantees which, if not unique in the industry, are certainly rare.

Elm Guarantee Fourfold

After a customer's elms have been treated by Lowden for 3 years, the firm guarantees to perform any work free of charge if Dutch elm disease strikes. Conditions for this guarantee are fourfold: (1) The customer must have had the regular recommended spraying program for 3 years; (2) the trees must be sprayed twice each year; (3) customers must not cancel a scheduled spraying, or permit any other firm to work on the trees under contract; and (4) there must be no diseased trees within 350 feet of the trees under contract.

Davis said this program has been highly successful, and has not only helped build the volume of elm spraying his firm performs, but has also helped in the realm of general public relations.

Throughout the program of the 39th convention of the International Shade Tree Conference, concern of delegates about the professional stature of arboriculture was evident. A resounding challenge to the membership at large was delivered by Dr. John A. Weidhass, whose talk on professionalism and ethics among tree companies struck a keynote of quality for the industry as a whole.

Dr. Weidhass, an entomologist, is associated with Cornell University in Ithaca, N.Y.

Has the image of the arborist kept pace with the changing times? the scientist prodded. Has the tree company mastered the concept of public relations, which in our day has itself reached the status of a science, with skilled practitioners who ply their trade expertly?

While strides have already been made, Weidhass is optimistic about the work which can yet be accomplished in conveying to the public, and to the arborist industry itself, the nature and value of America's tree expert companies.

How are these advances to be brought about? One way, the Cornell technician suggested, is through a strengthened National Arborists Association, with larger membership, increased staff, and broader scope of activities.

Weidhass had high praise for Dr. Paul Tilford and his NAA work, and dwelt on the possibility of using the association to make even greater gains for the industry. But arborists themselves must be willing to give generously of their

Reaction of public to shade tree spraying was analyzed by arborist Henry F. Davis III.

time, funds, and energies if the association is to move to new heights of service and accomplishments, the entomologist warned.

NPCA Good Example to Follow

Dr. Weidhass cited the National Pest Control Association as a good example of a well-supported industry organization which has made remarkable headway in establishing ethics, ability, and sound management.

Thunderous applause greeted Dr. Weidhass on the completion of his dedicated and inspired address. A panel of industry leaders then discussed the doctor's points as they actually apply to the past and present practice of arboriculture in the United States.

Consisting of W. E. Parker, Hackett C. Wilson, Frank Vaydik, and E. Earle Martin, introduced as a quartet of highly qualified tree men, the panel found immediate application for many of Dr. Weidhass's suggestions.

Wilson owns Wilson Tree Serv-

A new set of leaders for the Shade Tree Conference. Officers for the coming year are (left to right) President Spencer H. Davis, Jr.; Vice President J. A. Dietrich; Secretary-treasurer L. C. Chadwick; and Editor Paul E. Tilford.

ice of Shelby, N.C., one of the largest arborist operations in the entire South. A past president of the International Shade Tree Conference, Wilson was eminently qualified to delineate his views for the attentive congregation.

Wilson agreed that the industry is moving forward in its efforts to achieve public acceptance. But he warned that irresponsible fiscal policies must be avoided, and that sound pricing and close attention to costs must always prevail.

The southerner deplored the financial carelessness which seems

Congratulations were extended to Canadian Howard B. Dunnington-Grubb, (left) a Toronto landscape architect who was given honorary membership in the International Shade Tree Conference. Maunsell Van Rensselaer (right), '62-63 ISTC prexy, guided this year's convention.

to characterize the policies of modern governments, and modern industries. "A day of reckoning for American business ethics is at hand," Wilson warned.

Arborist W. E. Parker of Moorestown, N.J., agreed with the general tone of the discussion, but reminded his audience that whether or not arboriculture is a "professional" activity depends largely on the individual.

No amount of education without experience, and no amount of experience without some education, can raise the tree company operator to the professional status which he seeks. And education, ambiguous and elusive, is obtained in many ways.

"Don't forget that the 'old-timers' in this business have gained a tremendous education," Parker asserted. "These men have their notebooks and their memories which augment the institutional training which is available."

Vaydik, who is superintendent of forestry and grounds maintenance for the city of Detroit, Mich., delivered the municipal arborists' point of view in the round-robin discussion of aboriculture today.

"In-service training is the most practical steppingstone to increased stature," Vaydik felt. The practice of training a very large staff has led the Detroiter to use the on-job technique. He is quite pleased with the results he has had.

"These brass-tacks educational efforts have helped raise the level of our service personnel," Vaydik said.

Dr. S. H. Davis, Jr., who was later elected '63-64 president of the International Shade Tree Conference, moderated the panel and introduced principal speakers. Dr. Davis is from Rutgers University in New Brunswick, N.J.

Man and Insects Locked in Battle

"Throughout the ages of recorded time, man's every forward step has been challenged by those universally present competitors we know as insect pests," Dr. George C. Decker proclaimed in introducing his analysis of the real problem over the use of chemical pesticides.

A world-renowned entomologist, Dr. Decker is Principal Scientist and Head, Section of Economic Entomology, Illinois Natural History Survey, Urbana.

The Illinois authority's level-headed attack on the virulent and unscientific figures in the

Equipment on display fascinated Dr. Paul E. Tilford, Executive Secretary of the National Arborists Association, who paused to watch a large aerial lift.

public press who have violated their journalistic and scientific responsibility was a welcome event for the members of the gathering, who have themselves been subjected to abuse over the use of spray chemicals to protect trees.

"Remember, for example, that 75% of all foodstuffs confiscated by the Food and Drug Administration is contaminated biologically, not chemically," Dr. Decker affirmed. This certainly points out that the pest problem in general is more acute than the general chemical problem, Rachel Carson notwithstanding.

And Dr. Decker begged his audience to remember too that the early American colony in Jamestown was once reduced to only six able-bodied men, when the rest of the pioneers were laid low by the ravages of malaria, carried of course by a mosquito.

"It has been appropriately said by Col. A.W.A. Brown of the University of Western Ontario that modern pesticides should be used as a stiletto and not as a scythe," the distinguished scientist summarized. "The same is true of criticism—we should pinpoint faults and errors and refrain from making sweeping indictments.

"Well-founded criticism, caution, and even a certain degree of skepticism are wholly justifiable and conducive to constant improvements, but the misrepresentation or exaggeration of facts and the utter disregard of truth in behalf of any cause is deplorable and morally wrong," Dr. Decker concluded.

"Nature has no sympathy for a tree that is badly injured."

This comment by C. L. Wachtel of Wachtel Tree Science and Service Co., Wauwatosa, Wis., was indicative of the need which gave

Quarter of experts trained their collective knowledge on some common tree ills. Left to right are Dr. Robert Brandt, Dr. Marvin Fowler, President S. H. Davis, and Dr. D. S. Welch.

rise to the arborist industry in the first place—tree surgery.

Wachtel, in his Monday afternoon address, pointed out that before any extensive tree surgery is performed, extensive diagnosis must be carried out.

He recommended that close attention be paid to drainage when a major filling is installed in a damaged tree.

Examine 3 Tree Ills —

For this technical interlude, conference guides had assembled a trio of scientists whose valued insights and information were typical of the general high quality of the 39th International Shade Tree Conference convention.

— Ash Dieback

Leadoff man in the technical triumvirate was Dr. Robert N. Brandt, U.S. Forest Experiment Station, New Haven, Conn., whose subject, "Ash Dieback in the Northeast," was of intense interest to the gathered arborists.

"As of this summer, ash dieback has been seen from Maine to Michigan and southward to Maryland and West Virginia," Dr. Brandt commented in his introduction.

The disease attacks both white ash (*Fraxinus americana*) and green ash (*Fraxinus pennsylvanica*) but most of the damage is done to white ash.

Over the past few years, no tree once diseased with ash dieback has been known to recover.

Unfortunately the cause of this disease has not yet been discovered, although tree scientists from all over the world (including Russia) are working on the problem.

"There is evidence that some widespread effect, such as a prolonged moisture deficiency or some other major environmental change, has caused the losses in host vigor and such weakened trees are then susceptible to organisms of lesser importance," Dr. Brandt revealed.

There is a lack of knowledge about the cure of the disease which is as obscure as the cause. But the Forest Service official did make some recommendations.

"For lawn and street trees I can only recommend that every effort be made to keep the trees healthy through use of a good fertilization and watering program. Pruning out the dead and dying branches cannot be relied upon to eliminate the dieback because it seems to occur only as a result of overall low tree vigor."

A call to arms for progressive arborists was delivered by Dr. John A. Weidhass.

— Maple Decline

Maple decline in the Northeast was another topic which gripped the arborists during the convention's early days.

Dr. D. S. Welch, Department of Plant Pathology, Cornell University, Ithaca, N.Y., analyzed this current ailment which is growing in importance. "One is lead to suspect that more than one disease is at work in maple decline," the Cornell authority said.

Among the symptoms of maple

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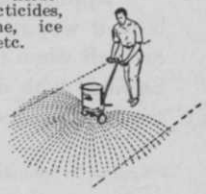

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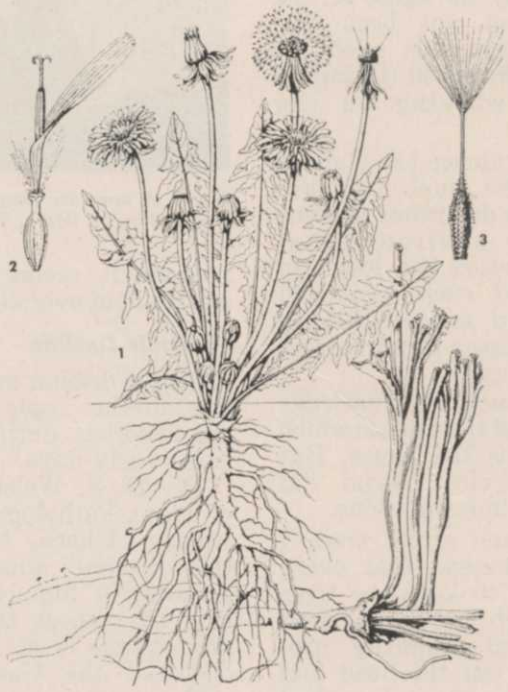


Dandelion is a perennial which reproduces both by seed and by sprouting at the roots. Next to crabgrass it is probably the most common weed around homes, but it is well adapted to meadows, roadsides, and waste places. Widespread throughout North America, it is easily recognized either by the bright yellow head of many tiny flowers in May and June, or by the cottony tuft or "blow-ball" which it forms when the seeds are ready for dispersal (1).

Upon sprouting the stem remains very short (flush with the ground), forming a rosette of toothed leaves. Leaves, 3 to 10 inches long, are covered with short hairs and have a milky juice. From this rosette grows a hollow shoot (scape) which will bear a single head made up of many tiny flowers. When each minute, single-petaled flower (2) has been pollinated, the green sepals close over the flower and appear as they did before it first blossomed. When they open again the feathery tufts, each bearing one seed, are ready to be shed on the wind. The seeds themselves are oblong, 3/16-inch long, longitudinally ribbed, and barbed at one end (3).

The root is a fleshy taproot (growing straight down, like a carrot) with branches which can form new plants.

Chemical control of dandelion is still dependent upon postemergent treatment. Dandelion is controlled by foliage sprays of the phenoxy compounds such as 2,4-D; 2,4,5-T; MCPA; and silvex.

Applied in the spring or fall, these chemicals will eliminate broadleaved weeds. Treatment is recommended for fall; otherwise spaces are left when the dandelion dies. In the fall these spaces will readily be filled with desirable grass; in spring chances are that crabgrass or another weed will move into the vacant spaces.

Prepared in cooperation with Crops Research Division, Agricultural Research Service, United States Department of Agriculture, Beltsville, Maryland.

(DRAWINGS FROM NORTH CENTRAL REGIONAL PUBLICATION NO. 36, USDA EXTENSION SERVICE)

decline are dwarfing, chlorosis, and early defoliation. It has been observed that decline frequently follows attacks of tent caterpillars; cumulative dry periods are also believed to contribute to the progress of the disease.

High nitrogen factors may be helpful to stem the epidemics of maple decline, while relative heat and cold seem to be unimportant.

"Has there been a correlation in temperature cycles and outbreaks of maple decline?" asked Theodore J. Haskell, city forester from Lansing, Mich.

Haskell explained that a rise in mean temperatures over a period of years might cause trees to require more moisture, which in turn could influence a variety of tree ailments.

Dr. Welch replied that this factor is being considered, but that results thus far are inconclusive.

— Sweetgum Blight

Continuing the examination of some acute disease problems with which arborists are concerned, Dr. Marvin E. Fowler detailed the causes and symptoms of sweetgum blight.

Dr. Fowler is Chief of the Division of Forest Disease Research Northeastern Forest Experiment Station of the USDA in Upper Darby, Pa.

"Sweetgum blight is the major disease that affects one of our very important ornamental, shade, and forest trees — the sweetgum (*Liquidambar styraciflua* L.)," Dr. Fowler remarked.

The blight, first observed in Maryland in 1948, spreads rapidly once established, and increases in severity.

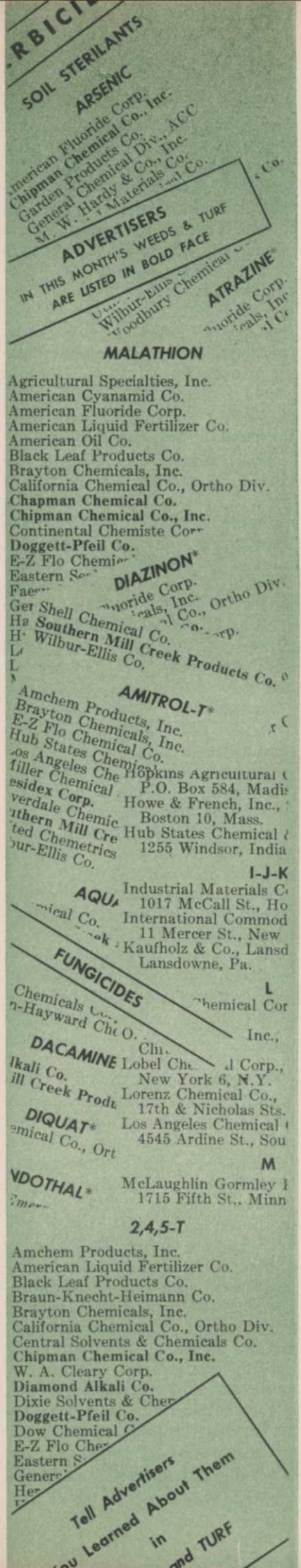
Sweetgum blight is probably the result of insufficient available water, Dr. Fowler mused.

Earliest indication of the sickness is a premature flush of fall coloration on one or more branches. This may occur several weeks before normal fall coloration shows up on healthy sweetgums.

Next spring the diseased branches may be dead or some of the buds on these branches may fail to open, and the foliage developing from other buds may be strikingly dwarfed and chlorotic.

"There is no known control for sweetgum blight in forest stands or in individual shade trees," Dr. Fowler said in summary. "Research indicates that pruning infected branches and applying fertilizers will not effectively con-

(*Continued on page W-18*)



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W-15

Calif. Sets Turf Trade Show

West Coast turfmen will have a chance to inspect products of more than 100 suppliers during the Official Turfgrass Industry Trade Show of California, to be held in Pasadena, Oct. 16-17.

Event is designed to bring together a variety of equipment and materials related to the turfgrass and nursery industries, for the benefit of professional members of the turf industry.

For more information on the trade show, write Gordon Lindsey, publicity director, Southern California Turfgrass Council, American Poultry Guano Corp., P.O. Box 332, Cucamonga, Calif.

Turf Reseeding

(*from page W-9*)

used for golf green winterseeding in Houston, usually in mixture, about 6-9 lbs./M (compared to 40 or 50 lbs. with ryegrass). Seedings at River Oaks Country Club were visible within a week, and none suffered so severely from the cold as did ryegrass. The finest Kentucky bluegrass putting green seen was at the Houston Country Club. Both Kentucky bluegrass and Pennlawn fescue seedings were made November 10, and the putting surface was perfect by February.

In Florida Dr. Prevatt has been successful with fine fescue-bluegrass and bentgrass combinations in the Lakeland area. Dr. Burt at the Plantation Experiment Station, and the University of Florida at Gainesville, have other winterseeding successes. One disadvantage found with *Poa trivialis*, both in Florida and Texas, is that this imported seed often brings with it troublesome rosette crucifer weeds.

Dr. Marvin Ferguson of the USGA Greens Section agrees that the winterseeding of southern golf greens is in a state of experimentation and flux. He is reluctant to advance firm recommendations until additional research can prove-up techniques and grass types. Mixtures of the grasses seem a way "to spread the risk"; if one species finds conditions adverse, another may not. A mixture of Highland bentgrass, Kentucky bluegrass, and Oregon fine fescues supplies high-quality potential, — and *Poa trivialis* might be included, too, if its yellowish color and tendency to bring in weeds is not objectionable. Most people prefer the darker green of the previous three grasses, although where *Poa annua* is an abundant weed, the yellowish color of *Poa trivialis* matches it pretty well.

Commercial Properties and Homes

Lawns of homes and commercial properties offer tremendous potential. Attractive turf is especially important for motels during tourist season. The same holds for shopping malls, funeral homes, and other commercial properties. Given time and sufficient promotion, winterseeding may catch on more fully, too, for the home.

Conclusions voiced for golf courses apply generally to commercial properties and homes, although a winter stand is more easily achieved, because the pressure of intensive use is not quite so great. Recent tests at Mississippi State University indicate that greatest success with the bluegrass-fescue-bentgrass seed mixtures is obtained when the permanent grass is mowed ¾ inch or less prior to overseeding in autumn. The University of Arizona notes that ryegrass needs more frequent mowing than bluegrass-fescue-bentgrass, and probably exhausts water supplies more completely. Highland bent offered little competition to revival of bermuda in 1961 tests.

For the Future

Although quick knockdown and winterseeding are not thoroughly developed markets, their feasibility is well established. Chemicals, equipment, and seed are readily available for renovation, upgrading, and annual bolstering. But other potentialities shape up, too. Pesticide applicators might like to think about, perhaps experiment a bit with, (1) slurry seeding, and (2) de-thatching services.

Slurry seeding requires special power sprayers only recently widely available (viz. the Hydroseeder of the Finn Equipment Company, Cincinnati, or similar machines made by Bowie Machine Works, Bowie, Texas). The technique has been most widely developed for roadsides. For a number of years a slurry containing seed and fertilizer has been sprayed upon the roadside with the Hydroseeder, to be followed by straw mulch with asphalt tack. More recently, a mulch derived from wood pulp (Turfiber) has been included, making possible a seeding-feeding-mulching operation all in one. The mulch functions more effectively for soil holding than as a moisture barrier, but nonetheless it is intriguing to consider the possibility of a small Hydroseeder for seeding home yards (perhaps given preliminary knockdown chemical spray). The tie-in seems a natural for lawn spray services.

De-thatching Has Possibilities

De-thatching, too, appears destined for future popularity. Heavy grass growth is an inevitable outcome of sophisticated lawn tending, the demand for better, more vigorous lawns. Need for occasional thinning is already widely accepted for elite turfs such as bentgrass. Trailing lawngrasses of the South, or almost any grass urged to splendor by heavy feeding, tend to thatch.

Several lawn thinners or dethatchers have been developed to remove the organic debris (thatch) which accumulates deep in the sod. With some grasses, such as zoysia, this can become persistent enough to hinder insoak of water. In almost all cases thatch prevents access of new seed to soil.

While many of the thinning machines tear the sod and disfigure the turf temporarily, at least one (the Thatch-O-Matic) has been developed to comb out the thatch without serious mutilation to the living leaves. The machines are not expensive, and one might surmise the extent to which they might serve a lawn-tending service. De-thatchers are just as impressive to a homeowner as are aerifying devices, however.

Thus, de-thatching would seem a logical preliminary to Hydroseeding or bolster seeding wherever appreciable thatch prevails. In fact, routine de-thatching and power sweeping prior to almost any lawn service (fertilization, weed control, bolster seeding) might make the operation more certain. Thatch can result in irregular penetration of materials, and hence imperfect performance, even though the sprayer gives perfect distribution.

Weed Society of America Plans Feb. 10-13 Confab in Chicago

Program arrangements are now being completed for the 1964 meeting of the Weed Society of America, set for the Pick-Congress Hotel in Chicago, Ill., Feb. 10-13.

First call for papers to be submitted for the convention has already been issued, with the deadline for submission of titles and abstracts set for Oct. 1. Titles and abstracts should be sent to the appropriate section chairman, with copies sent to the program chairman for the meeting, Prof. G. F. Warren, Department of Horticulture, Purdue University, Lafayette, Ind.

Chairmen of sessions of special interest to contract applicators include: Section III, The Control of Weeds and Woody Plants in Rights-of-Way and Other Industrial Sites, chaired by Dr. R. P. Upchurch, Field Crops Department, University of North Carolina, Raleigh;

Section VII, Weed Control in Turf, with Dr. R. W. Campbell, Department of Horticulture, Kansas State University, Manhattan, Kansas, as chairman;

Section XI, The Control of Aquatic and Marginal Weeds, chaired by James T. Davis, Fish and Game Division, Louisiana Wildlife and Fisheries Commission, P.O. Box 308, Monroe, La.; and

Section XII, Chemical and Mechanical Weed Control Equipment, with W. G. Lovely, USDA Agricultural Engineering Department, Iowa State University, Ames, Iowa, as chairman.

For more information on the 1964 meeting, or membership blanks for the Weed Society of America, write to Dr. F. W. Slife, treasurer-business manager, Weed Society of America, Department of Agronomy, University of Illinois, Urbana, Ill.

More program details will appear in *Weeds and Turf* later this year.

An insect-free rose bed was the result of soil sterilization conducted by William Spitz (right), president of Big State Exterminating Co., Houston, Texas, and William Basham (left), the city's horticulturist. Methyl bromide was used to clear the way for more than 3,000 roses in the 11,000 sq. ft. plot.

Houston Plots Rose Garden

Houston, Texas, expects to have one of the most beautiful rose gardens in the country, when final preparations are complete.

More than 3,000 roses were set out in the garden, which covers more than 11,000 sq. ft., late in March. Immediately before the roses were planted, the entire area was sterilized with methyl bromide, conducted by Big State Exterminating Co. of Houston.

A rich soil was created by mixing dirt with 100 bales of peat moss, 72 yards of wood chips, 250 bags of sheep manure, and several truckloads of clay, topsoil, and sand. Plants were set out with bare roots, to prevent the possibility of any disease entering through a root-ball.

Total cost for the garden is estimated at $30,000 by city officials.

Anti-bridging agitator on the Greenskeeper, new spreader from Sunnyhill Research and Manufacturing Co., broadcasts peat moss, fertilizers, herbicides, lime, and seed, among other materials. Spreader has an independent power supply, with agitator and feeding mechanism electrically controlled by magnetic clutch.

Sunnyhill Markets Spreaders

Three new tractor-pulled material spreaders, the Greenskeeper, the Landscaper, and the Suburban, are now being manufactured by Sunnyhill Research and Manufacturing Co.

Machines have an independent power supply to operate the spreader mechanism, eliminating the need for power take-offs from the pulling vehicle. Powered by Clinton gasoline engines, spreaders can broadcast material over a 25-foot swath.

A special agitator bar prevents any clogging in the hopper opening, the firm reports. Auxiliary dual feed and agitating members feed material to the hopper opening by moving the material back and forth, and also keep material in the hopper in motion to prevent bridging.

A new brochure on the three spreaders is available to CAs without cost. Write the Sunnyhill Research and Manufacturing Co., Imperial, Pa., for a copy.

West Coast CAs Set Sprayorama

New developments and equipment will be the theme of the 1963 Northwest Sprayorama, scheduled for Sept. 14 at the William Moshier Memorial Park, Burien, Wash., and sponsored by the Washington Assn. of Ground Sprayers, in cooperation with the Oregon Pesticide Sprayers and the Oregon Chemical Applicators Assn.

For more information on this day-long display and program, write M. A. Faulkner, secretary, Washington Assn. of Ground Sprayers, 2820 S. 150 St., Seattle 88, Wash.

Meeting Dates

Midwest Turf Field Day, Purdue University, Lafayette, Ind., Sept. 9 (repeated Sept. 10).

Fall Field Day, The Pennsylvania State University, University Park, Sept. 11-12.

1963 Northwest Sprayorama, Washington Assn. of Ground Sprayers/Oregon Pesticide Sprayers/Oregon Chemical Applicators Assn., William Moshier Memorial Park, Burien, Wash., Sept. 14.

70th Annual Farm Equipment Institute Convention, Roosevelt Hotel, New Orleans, La., Sept. 29-Oct. 2.

22nd Annual Short Course on Roadside Development, Columbus, Ohio, Oct. 8-11.

30th Annual National Agricultural Chemicals Assn. Conference, The Homestead Hotel, Hot Springs, Va., Oct. 27-30.

Annual Washington State Weed Conference, Chinook Hotel, Yakima, Wash., Nov. 4-5.

Shade Tree Conference

(from page W-14)

trol the disease. Nevertheless, we recommend that valued sweetgums on lawns or streets be given the best care, which should include watering during droughts, and fertilizing and pruning as needed," he concluded.

Effect of Flooding Studied

Another technical study of great importance to arborists was described by George Yelenosky of Duke University's Department of Botany. Yelenosky is conducting research on soil aeration and tree growth on Duke's campus in Durham, N.C.

When soil was flooded in Yelenosky's tests, a rise in pH was noted. This could be significant in treatment of areas where flooding has occurred.

Heavily-traveled areas where soil is compacted were also studied to determine how aeration, and subsequently tree growth, are affected.

In experiments with tuliptree and sugar maple seedlings, both species exhibited hypertrophy of the stem area which had been under compacted soil.

Yelenosky concluded with a recommendation that more research be undertaken in the entire field of soil aeration and tree growth.

In a discussion of Dutch elm disease by a variety of experts, Dr. J. C. Carter of the Illinois Natural History Survey said that one of the most promising developments in current research on Dutch elm disease is the use of systemic chemicals which may someday give a control for the disease.

He also pointed out that some species, such as Christine Buisman and Bea Schwarz elms, are resistent to the disease.

Dr. Carter's remarks were followed by a panel discussion by Joseph A. Dietrich, Park Superintendent, Greenwich, Conn.; John C. Van Camp, Midwest Shade Tree Consultants, Rockford, Ill.; and George W. Dalby, Superintendent of Horticulture, Niagara Falls Commission, Niagara Falls, Ontario. Because of concurrent sessions, delegates had to decide whether to attend the Dutch elm disease talks or the National Arborists Association meeting which featured the Felix and Davis addresses.

Arborists & Shade Tree Assns. Elect Officers For Coming Year

Both the National Arborists Association and the International Shade Tree Conference held business meetings and elected new slates of officers, during the Toronto convention.

Besides President Davis, new officers of the International Shade Tree Conference include vice president Joseph A. Dietrich, City Arborist and Park Superintendent from Greenwich, Connecticut. Dr. Paul E. Tilford remains editor for the ISTC, and Dr. L. C. Chadwick will continue to direct the association in his capacity as secretary-treasurer. Dr. Davis will be in charge of next year's convention.

In National Arborists Association meetings, John Z. Duling, Duling Tree Expert Co., Muncie, Ind., was elected president for the coming year. He will be assisted by Winston Parker, Certified Tree Expert, Moorestown, N.J., who is new vice president.

Dr. Paul E. Tilford retains his office as Executive Secretary.

In charge of the 39th convention was J. S. Kimmel, Toronto City Arborist, who was general chairman of the convention committee. President of the ITSC during the year of preparation was Maunsell Van Rensselaer of the Saratoga Horticultural Institute, Saratoga, Calif.

Houston, Texas, was selected for the 1964 meeting. Dates and hotel site will be announced later, Dr. Chadwick told *Weeds and Turf*.

Trimmings

Last time, we promise. Sick of hearing about Rachel Carson? Last May we talked about an electric power company which gave its employees effective rebuttal material for *Silent Spring* devotees, and now another such publication has come to our attention. This paper, Central Maine Power Company's *The Exciter*, has an amply illustrated article which should train employees of the Augusta, Maine, firm to scuttle Rachel's scurrilous scow with effective dispatch. We hope that the public is as tired of her tirade as we are, and promise to avoid the subject as much as possible in the future!

* * *

Behind-the-scenes-man. **We've had so many readers tell us how much they use and need our monthly "weed boxes" that we want to give some credit to one of the scientists who has helped this project along. These species identification features are written by the technical staff of *Weeds and Turf*, and then sent to Dr. Dayton L. Klingman with the USDA in Beltsville, Md., who has been most obliging in his criticisms. Dr. Klingman, who is Leader, Weed Investigations-Grazing Lands with the Crops Protection Research Branch, is a veteran of many years in government service. Apparently he comes from a scientific family, because his brother Glenn is a weed control expert with North Carolina State College in Raleigh. We're sure we act for the industry as a whole when we doff our caps to this duo who've contributed so much to vegetation management in the US. (Any mistakes — heaven forbid — should be blamed on us, not Dr. Klingman!)**

* * *

The seaweed surrounds us. Our wandering reporter and keeper of irrelevant facts just wrote in about a farmer in Hartville, Ohio, who uses seaweeds instead of insecticides to protect his crops from insect damage. This tiller of the soil says he's found the weed product, which comes from Norway, to be most efficient in growing plants which are more resistant to insect and disease damage. For maximum efficiency, the farmer recommends, use about 400 to 500 pounds per acre. Now that's a lot of seaweed. Furthermore, if a careless farmhand applies too much of the Norwegian "pesticide," plants tend to become dwarfed. No mention was made of how much this off-beat product costs, but we wonder about the practicality of importing from Norway 4 to 500 pounds of the stuff for every acre under cultivation!

* * *

Elm-bedecked city nets Metz. **While at the International Shade Tree Conference last month we had a chance to talk with Robert R. Metz, who recently became Commissioner of Forestry for the City of Toledo, Ohio. Bob, long active in arboriculture and related fields, has the imposing job of caring for Toledo's famous elms. The Ohioan approaches his job with gusto, and was much in evidence during the technical sessions of the conference. He even took time out to compliment us on *Weeds and Turf*, which he finds helpful in his administrative arborist position. Here's hoping you don't get in "Dutch," Bob!**

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